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1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE X AUGUST 1995	3. REPORT TYPE AND DATES COVERED FINAL REPORT (07-94 TO 07-95)	
4. TITLE AND SUBTITLE * THE ADULT PRIMARY CARE CLINIC: A CASE STUDY OF ONE APPROACH TO DEVELOPING A PRIMARY CARE CLINIC IN AN ARMY MEDICAL CENTER.		5. FUNDING NUMBERS	
6. AUTHOR(S) MAJ DOREEN M. LOUNSBERRY, MC			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) FITZSIMONS ARMY MEDICAL CENTER * AURORA, CO 80045-5000		8. PERFORMING ORGANIZATION REPORT NUMBER 5a-95	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) US ARMY MEDICAL DEPARTMENT CENTER AND SCHOOL BLDG 2841 HSHA-MH US ARMY-BAYLOR UNIVERSITY GRAD PGM IN HCA 3151 SCOTT ROAD FORT SAM HOUSTON, TEXAS 78234-6135		10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES 19960911 049			
12a. DISTRIBUTION/AVAILABILITY STATEMENT * APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED		12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) As the military health services system moves into managed care, tertiary care facilities are recognizing the need to develop their primary care capabilities. In 1994, Fitzsimons Army Medical Center opened their Adult Primary Care Clinic (APCC). The purpose of this case study was to describe the original staffing and enrollment plans, actual staffing and enrollment, and the patients served by the APCC. The study utilized interviews, documents, direct observation, and participant observation. The patients are described using a 10% sample of the enrolled population. The planned physician to beneficiary ratio of 0.36 to 1000, and the actual ratio of 0.33 to 1000, are well below the staff model HMO ratio of 0.983 to 1000. The patients served by the APCC are older than the population served by the HMOs. The overall ambulatory utilization rate for the APCC patients was 9.19 visits per year, compared to the HMO rate of 5.4 visits per year. Seventy-two percent of the sample patients were found to have one or more chronic conditions. Based on the older population, higher utilization rates, and the high percentage of patients with chronic diseases, the clinic should be staffed with more physicians and physician extenders than staff model HMOs.			
14. SUBJECT TERMS PRIMARY CARE, MANAGED CARE		15. NUMBER OF PAGES 64	
DTIC QUALITY INSPECTED			
17. SECURITY CLASSIFICATION OF REPORT NA	18. SECURITY CLASSIFICATION OF THIS PAGE NA	19. SECURITY CLASSIFICATION OF ABSTRACT NA	20. LIMITATION OF ABSTRACT UL

U. S. Army-Baylor University
Graduate Program in Health Care Administration

THE ADULT PRIMARY CARE CLINIC:
A CASE STUDY OF ONE APPROACH TO DEVELOPING A
PRIMARY CARE CLINIC IN AN ARMY MEDICAL CENTER

A Graduate Management Project
Submitted in to the Faculty in Fulfillment
of Requirements for a
Masters Degree in Health Care Administration

by

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26 June 1995

ACKNOWLEDGMENTS

I would like to express my gratitude to the following individuals. First, I want to thank my preceptor, Colonel Van R. Booth, Chief of Staff, Fitzsimons Army Medical Center, for his support, guidance, and patience during this project and throughout the residency year. Next, I would like to thank Thomas McCoy, Quality Improvement, Fitzsimons Army Medical Center, for his assistance with the Fitzsimons Hospital Information System. Without his assistance, it would not have been possible to obtain the enrollment information necessary for this study. Finally, I would like to thank Lieutenant Colonel Annette Etnyre and Ms. Barbara Pope, Adult Primary Care, Fitzsimons Army Medical Center. They provided valuable information and support for this project.

ABSTRACT

As the military health services system moves into managed care, tertiary care facilities are recognizing the need to develop their primary care capabilities. In 1994, Fitzsimons Army Medical Center opened their Adult Primary Care Clinic (APCC). The purpose of this case study was to describe the original staffing and enrollment plans, actual staffing and enrollment, and the patients served by the APCC. The study utilized interviews, documents, direct observation, and participant observation. The patients are described using a 10% sample of the enrolled population. The planned physician to beneficiary ratio of 0.36 to 1000, and the actual ratio of 0.33 to 1000, are well below the staff model HMO ratio of 0.983 to 1000. The patients served by the APCC are older than the population served by HMOs. The overall ambulatory utilization rate for the APCC patients was 9.19 visits per year, compared to the HMO rate of 5.4 visits per year. Seventy-two percent of the sample patients were found to have one or more chronic conditions. Based on the older population, higher utilization rates, and high percentage of patients with chronic diseases, the clinic should be staffed with more physicians and physician extenders than staff model HMOs.

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CHAPTER 1

INTRODUCTION

Background

Based on President Clinton's proposal for health care reform, the Department of Defense initiated a transition to managed care in the military health services system on October 1, 1993. The goals of this program, known as TRICARE, are to improve beneficiary access, ensure quality care, and control health care costs. TRICARE calls for making the most efficient use of military treatment facility resources (Department of Defense 1994).

The optimal utilization of resources means providing appropriate primary care with an emphasis on wellness and preventive medicine (Burger 1994). "Primary care is the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community" (Donaldson, Yordy, and Vanselow 1994). For Army medical centers, whose focus has been tertiary care, this change in emphasis requires a major change in operations.

Fitzsimons Army Medical Center (FAMC) is a 182 bed, regional referral center, providing tertiary care to eligible beneficiaries in a fourteen state region (FAMC 1994a). In addition to regional responsibilities, FAMC provides care to 56,372 beneficiaries in the local catchment area (DMIS Information Center 1994).

In February 1994, FAMC began planning for a managed care clinic. Prior to this initiative, primary care was not emphasized at the facility. The Outpatient Clinic provided some primary care, as well as being a referral source into specialty care. The Internal Medicine Clinic also provided primary care to patients followed in the clinic. The focus of the Internal Medicine Clinic was graduate medical education. The clinic was staffed for this purpose. It was not staffed to see large volumes of primary care patients. The Internal Medicine Clinic was chosen to implement the managed care approach and became the Adult Primary Care Clinic (APCC).

Problem

At the time the planning for the APCC began, only one other Army medical center, Madigan Army Medical Center, had begun anything similar. Madigan serves a very different beneficiary population and utilizes family practitioners and family practice residents, as well as internists, to provide primary care (Schoomaker 1994). Because of these differences, FAMC developed its own model based, in part, on

civilian health maintenance organizations (HMOs). The experience of one staff physician who had worked in an HMO served as the basis for some of the planning (Sirridge 1994; Gibbons 1994).

Current information systems at FAMC are unable to provide accurate utilization data for patient populations. Information regarding outpatient diagnoses is also not available. If this information were available, it would greatly improve the ability to plan for needed services. For multiple reasons, the original plan for the clinic has not been fully implemented, but 17,570 patients have been enrolled. Evaluation of the current organization of the APCC, as well as the patient population, is important in determining how FAMC compared to the HMO model and what changes need to be made to improve the clinic and make managed care work at FAMC.

Literature Review

The military health services system most closely resembles the staff model health maintenance organization. In this model, the physicians are employed by the HMO and paid on a salary basis. Group model HMOs, whose physician group exists solely to provide services to the HMO, would also be comparable to the military medical system (Kongstvedt 1993). But statistics available on group model HMOs commonly includes all group models and thus cannot be used for comparison to the military system.

In 1992, staff model HMOs averaged 0.983 full time primary care physicians per 1000 enrolled beneficiaries (Group Health Association of America 1993). Large plans and older plans use less physicians than the average, while small plans and newer plans use more. Increases in the primary care physician's scope of practice leads to higher staffing needs. Plans with large numbers of enrollees over the age of sixty-five also have higher staffing requirements. Staffing ratios that are too low may stress primary care providers and lead to increased use of consultation (Kongstvedt 1993).

Eighty-five percent of physicians in staff model HMOs are board certified (Group Health Association of America 1993). Most staff model HMOs pay physician bonuses based on performance (Kongstvedt 1993). In the military, physician bonuses are based on specialty, not performance. Many HMOs are finding that residency training does not prepare physicians to practice in a managed care setting. Several large HMOs have developed training programs to assist physicians in making the transition to practice in the HMO. In the program developed by the Harvard Community Health Plan, physicians spend one-half day per week, for thirty weeks, improving their clinical skills, learning how to maintain effective clinical relationships, and improving their organizational and team skills. The program costs

\$250,000 per year and \$10,000 per physician, due to lost clinical time (Katz, Moore, and Wisniewski 1994).

Closed panel HMOs, which include both group and staff models, make extensive use of non-physician providers.

Closed panel HMOs are those whose physicians see only patients enrolled in the HMO. Physicians assistants (PAs) and nurse practitioners (NPs) are each used by 52% of these plans (Kongstvedt 1993). The Harvard Community Health Plan, a staff model HMO, uses internists and pediatricians as primary care physicians and makes extensive use of NPs and PAs (Steinwachs et al. 1986). At Northwest Region Kaiser Permanente, physician assistants treat a broad range of medical problems. The majority of their PAs provide primary care (Hooker and Freeborn 1991). Collaborative practice between physicians and non-physician providers allows the physician to concentrate on patients with complex medical problems (Coslow 1992). Most plans enroll less beneficiaries to nurse practitioners and physician assistants than to physicians. The PA or NP may be considered as 0.8 of a physician full time equivalent for staffing and enrollment purposes (Kongstvedt 1993).

Overall, staff model HMOs average 1.031 non-physician practitioners per 1000 enrollees. In addition to PAs and NPs, these non-physician practitioners include social workers, psychologists, physical and occupational

therapists, pharmacists, and others (Group Health Association of America 1993).

Over the past several years, the clinical pharmacist has assumed an important role in the direct care of the patient (Penna 1990; Hepler and Strand 1990; Lee and Ray 1993). A recent study at a Kaiser Permanente facility showed that a pharmacist managed medication review saved an average of \$644 per patient. The savings were mainly due to decreases in unscheduled physician visits, urgent care visits, and emergency visits (Borgsdorf, Miano, and Knapp 1994).

HMOs, because they both finance and provide care, can be expected to have more administrative employees than solo or group practices. Staff model HMOs average 3.134 administrative personnel per 1000 enrollees. Of the administrative personnel employed by staff and group model HMOs, approximately 40% deal with finances, 22% work on services (member services, quality assurance, utilization review, and provider negotiations), and 35% perform other administrative functions (Group Health Association of America 1993).

Although HMOs have been used for medical manpower modeling, evidence exists that the population served by HMOs does not reflect that of the U. S. population. HMOs tend to serve a younger, healthier population (Weiner 1991; Conn 1993). Table 1 shows the age and sex distribution of the

enrolled members of staff model HMOs. Comparison to the population of the United States, Table 2, confirms that HMOs serve a younger population. Table 3 shows the age and sex distribution of the military beneficiaries in the FAMC catchment area. This population is older than both the HMO and the U. S. population.

Table 1

Average Percentage Enrollment in Staff Model HMOs
by Age and Sex, 1991

Age	Male	Female	Total
<15	14.8%	14.5%	29.3%
15 - 44	20.7	26.6	47.3
45 - 64	7.6	8.6	16.2
>64	3.2	4.1	7.3
Total	53.8	46.3	

Source: Group Health Association of America, 1993.

Table 2

Age and Sex Distribution of the U. S. Population, 1991

Age	Male	Female	Total
<15	11.2%	10.7%	21.9%
15 - 44	23.6	23.4	47.0
45 - 64	8.9	9.6	18.5
>64	5.1	7.5	12.6
Total	48.8	51.1	

Source: Group Health Association of America, 1993.

Table 3			
Age and Sex Distribution of Beneficiaries in the FAMC Catchment Area, 1994			
Age	Male	Female	Total
<15	7.7%	7.4%	15.0%
15 - 44	14.9	16.1	31.0
45 - 64	17.5	15.9	33.4
>64	10.1	10.4	20.5
Total	50.2	49.8	

Source: DMIS Information Center, 1994.

The average ambulatory utilization rate for all enrollees in staff models HMOs was 5.4 visits per year in 1991. This rate includes visits to all providers. For physician encounters, the rate was 3.8 visits per year. Physician encounters average 73.6% of total visits (Group Health Association of America 1993). Table 4 shows the average utilization rates by age and sex in staff model HMOs.

Table 4		
Average Total Ambulatory Utilization Rates (Visits/Year) in Staff Model HMOs by Age and Sex, 1991		
Age	Male	Female
<15	4.2	4.1
15 - 44	3.4	6.0
45 - 64	5.8	7.6
>64	8.7	9.1

Source: Group Health Association of America, 1993.

Since the percentage of enrollees over the age of 65 in HMOs is relatively low, utilization data from Medicare risk HMOs is likely to more accurately reflect the utilization of services by this group. Total ambulatory utilization for Medicare risk HMO enrollees averages 16.7 visits per year. The average number of physician encounters is 11.8 per year (Group Health Association of America 1993).

A 1978 study of the use of health services by non-active duty beneficiaries of the military health care system showed outpatient utilization patterns comparable to that of members of the Kaiser Plan (Thorner 1978). More recent comparisons are not available.

Multiple studies have examined factors that lead to increased utilization of health services and to increased expenditures. Two studies were conducted by the Fallon Community Health Plan. Elderly members of the plan filled out a health status questionnaire at the time of their enrollment. The first study found that number of medications, number of years since last hospitalization, age, and medication allergy were predictive of expenditure (Levkoff, et al. 1988). The second study showed that the presence of heart disease, a mobility/disability, or arthritis was highly predictive of high average annual per capita expenditure. Mental health problems and past hospitalizations were also predictive of high resource use (Levkoff, et al. 1992).

Another study analyzed one HMO physician's panel looking for factors leading to higher costs. The study showed that patients treated for one or more of twelve chronic conditions (37% of all patients) accounted for approximately two-thirds of total costs. These twelve conditions were: hypertension, cancer, abdominal pain, heart disease, diabetes, back pain, headache, depression, arthritis, chronic obstructive pulmonary disease, anxiety, and fatigue (Von Korff and Marshall 1992).

Based on age distribution, the FAMC beneficiary population is clearly different from the population served by staff model HMOs. The availability of utilization and chronic diagnosis information for the FAMC beneficiary population would allow better planning of staffing and services for the Adult Primary Care Clinic. In addition, this information would facilitate comparison and adjustments to the HMO model to better fit the needs of the FAMC beneficiary population.

Purpose

The purpose of this case study was to describe the original staffing and enrollment plans, the actual staffing and enrollment in October 1994, and patients enrolled to the APCC. The clinic organization and staffing continued to evolve during the study. Areas studied included, but were not limited to, staffing, enrollment, and patient

characteristics. Recommendations regarding changes to the organization, enrollment, and services were made based on the findings of the study.

CHAPTER 2

METHOD AND PROCEDURES

Study Design

The design of this study is a single case with embedded units (Yin 1984). The study is both descriptive and explanatory in nature. The single case is the Adult Primary Care Clinic. The organization of the clinic consists of many embedded units, including: physician staff, physician extenders, nursing staff, administrative staff, pharmacists, enrollment, and patient population.

Data Collection and Analysis

Data used to describe the clinic was obtained from documents, interviews, direct observation, and participant observation. Documentation was very limited, but included a business plan, schedules, and memoranda. Interviews with Adult Primary Care Clinic staff, Managed Care Division staff, and Department of Nursing staff were conducted beginning in October 1994. Direct observation and participant observation were carried out by the author in the Adult Primary Care Clinic.

Information used to describe the patient population came from demographic data, outpatient medical records, and the Fitzsimons Hospital Information System (FITZ-HIS).

Demographic data was obtained from the Defense Medical Information System (DMIS) and from enrollment data in the Fitzsimons Hospital Information System (FITZ-HIS) computer system. The Adult Primary Care Clinic enrollment begins at age 18. Therefore the data reported for the clinic population began with the age group 18 to 44.

To determine utilization rates, chronic diagnoses and the number of chronic medications for the enrolled population, a ten percent sample was chosen. Enrollees were sorted by sex and age, resulting in two computer printouts, male and female, with enrollees in order by age. Every tenth individual was selected, resulting in a sample size of 1761. This manner of selection ensured that the age and sex distribution of the sample was comparable to that of the enrolled population. Following the data collection, 28 individuals were eliminated from the sample due to death, ineligibility for care, disenrollment, or movement from the catchment area prior to, or during, the study period. This left a sample size of 1733.

During the period of January to May 1995, the outpatient records of the sample population were reviewed for chronic diagnoses. Two attempts were made to locate each record. A total of 1148 of 1733 sample records (66.2%) were available for review. A diagnosis was considered chronic if the disease is known to be chronic, such as diabetes mellitus, or if it was a recurring problem over at

least a six month period. Diagnoses were found in the progress note and medical problem list portions of the outpatient record. A worksheet (Appendix A) was developed and used in the record review. Initially, specialty clinic visit and medication information was also collected from the outpatient record. It soon became apparent that this information could be more accurately obtained from FITZ-HIS.

For the purposes of this study, chronic diagnoses were grouped into the following categories prior to entry into a spreadsheet: heart disease, skin cancer, diabetes mellitus, thyroid disorders, lipid abnormalities, cancer, hypertension, headache, dementia, stroke, other neurologic disorders, abdominal pain, gastroesophageal reflux, peptic ulcer disease, colon polyps, asthma or chronic obstructive pulmonary disease (COPD), prostate abnormalities (other than cancer), degenerative arthritis, rheumatologic disorders, back pain, depression, fatigue, anxiety, and other psychiatric disorders.

The FITZ-HIS Physicians Menu has a submenu option entitled Patient Activity Profile 2. This option allows the user to produce a report of a patient's entire activity for a specified number of days back in time. The activity information includes emergency room visits, clinic visits, hospital admissions, medications, and laboratory and radiology test results (Fitzsimons Army Medical Center, Directorate of Information Management 1994). Infectious

disease and psychiatry clinic visit information is not included in FITZ-HIS due to privacy concerns.

During the period of March through May 1995, a Patient Activity Profile was printed for each individual in the sample. The laboratory and radiology data was not included. During this procedure, it was recognized that a programming problem in this submenu option intermittently resulted in a computer malfunction. This tended to happen with individuals who had no or few visits to the hospital. Alternate submenus, Medication Profile and Patient Profile, were used to obtain the same information on those individuals.

From the Patient Activity Profile 2, or the alternate submenu sources, clinic utilization was extracted for the four month period of October 1994, November 1994, January 1995, and February 1995. December 1994 was not included due to the possible effects of holiday schedules on appointment availability, and therefore, utilization.

The clinic visits were grouped into the following categories: primary care physician, primary care physician extender, medical subspecialties, gynecology, surgical specialties, radiation therapy, emergency room, other visits, and telephone calls. Telephone calls were not included in the utilization data. Multiple visits to one clinic on one date by the same individual were counted as only one visit. Primary care physician extenders include

physician assistants, adult nurse practitioners, gynecologic nurse practitioners, and clinical pharmacists. Medical subspecialties include allergy, endocrinology, rheumatology, cardiology, gastroenterology, pulmonary, nephrology, dermatology, and neurology. Surgical specialties include neurosurgery, ophthalmology, orthopedics, otolaryngology, thoracic surgery, general surgery, urology, plastic surgery, and podiatry.

The other visit category included physical therapy, occupational therapy, audiology, immunizations, home health care coordinators, coumadin clinic, diabetes education, nutrition care, speech therapy, community health and preventive medicine nurses, and tobacco cessation classes. Non-physician encounters for clinics other than primary care could not be reliably separated from physician visits.

The number of chronic medications for each individual was obtained from the Patient Activity Profile 2 or from the Medication Profile submenu. A medication was considered chronic if it was prescribed for regular use for one month or longer.

Data was entered into a spreadsheet. The actual number of chronic medications and clinic visits were entered. The presence or absence of each chronic diagnosis was entered for each individual whose chart was available for review. A "1" was entered if the condition was present, a "0" entered if the condition was absent. Utilization means were

determined for the four month study period. These means were then multiplied by three to obtain an annual rate. Sample means were also found for each chronic diagnosis. These sample means represent the proportion of the sample having the disease.

Validity and Reliability

The embedded units of analysis are elements analyzed in studies of other health care organizations. Use of the same elements gives the study construct validity. Results of this study can be applied to further development of primary care at FAMC and in other similar settings, giving the study external validity. The reliability of the study is based on the accuracy of data collected. Multiple sources of information were used to increase the reliability. The reliability of information collected on patients is based on the reliability of data in the FITZ-HIS computer system and in the medical records.

Ethical Considerations

This study did not involve experimentation on human subjects. Although names and social security numbers were used to collect data, no confidential patient information is reported in the study. All staff who participated in interviews were informed that a case study was being done.

CHAPTER 3

RESULTS

The Plan for Primary Care

In February 1994, the Managed Care Division of FAMC began planning a primary care system. A process action team was formed to develop a plan for primary care. Members included representatives from the Department of Medicine, the Internal Medicine Clinic, the Outpatient Clinic, the Department of Nursing, Civilian Personnel Office, and the Managed Care Division. Resource Management was invited, but attended only one meeting (Gibbons 1994). The Managed Care Division developed the following mission statement: "we will provide patient-centered, comprehensive, coordinated, culturally sensitive, effective, and appropriate primary care services within a managed care umbrella to all active and retired beneficiaries residing within our catchment area" (Wimett 1994).

The mission statement illustrates the ambitious nature of the plan. The plan called for comprehensive services, including patient education, wellness and health promotion, an advice nurse, case management, pharmacy, laboratory, and radiology services, all within the clinic. Outpatient records were to be maintained in the clinic. Scheduling of

referrals to specialty clinics would be accomplished by appointment clerks within the clinic, eliminating the need for patients to hand carry referrals to other clinics (FAMC Managed Care Division 1994).

The Managed Care Division wished to develop three primary care clinics or teams. Team I was to be started with resources from the existing Internal Medicine Clinic, Team II from the Outpatient Clinic, and Team III from Pediatrics. Each adult team was expected to care for 25,000 beneficiaries (Mantia 1994). The Managed Care Division wanted to implement all three teams at the same time. Representatives from the Department of Medicine favored starting more slowly, one team at a time (Seipp 1994). Eventually, it was decided to begin with Team I of Adult Primary Care. The opening date was set for July 5, 1994.

Staffing Plan

The staffing plan was developed based on information obtained at conferences attended by Managed Care Division staff members. The information is no longer available for review (Gibbons 1994).

The plan called for each physician to have a panel of 4000 to 7000 patients (Mantia 1994; FAMC 1994b). Initially, it was expected that each physician would have three NPs or PAs on his or her team to assist in caring for the 4000 to 7000 patients (FAMC 1994b). Although the number of NPs or PAs decreased to one per physician in the final

Implementation/Business Plan (Appendix B), the number of patients did not change. In contrast to the written plans, the staff of Team I was told that each physician team would have 2500 patients (Etnyre 1994).

Several positions that were part of the planned staffing were not included in the Implementation/Business Plan. These positions were: six nursing assistants, a psychiatric clinical nurse specialist, and an additional clinical pharmacist. Hiring actions went forward on these positions when the other hiring actions were initiated (Pope 1994).

Comparison to Civilian HMO Staffing

Physicians, Nurse Practitioners, Physician Assistants

The Implementation/Business Plan called for three full time equivalent (FTE) civilian physicians and a total of two FTE military physicians to care for a total of 25,000 beneficiaries. With five physicians, the physician to enrolled beneficiary ratio is 0.25 to 1000. Comparison to civilian staff model HMOs, which average 0.983 physicians per 1000 beneficiaries, suggests that the plan underestimated the number of physicians needed to care for 25,000 beneficiaries. Based on the HMO model, 24.6 FTE physicians would be needed to care for this population (Group Health Association of America 1993).

The Implementation/Business Plan also called for a total of five FTE NPs or PAs. If one FTE NP/PA is considered as 0.8 physician FTE for staffing purposes (Kongstvedt 1993), the five NP/PAs would provide the equivalent of four physician FTEs. This results in a total of nine FTE physicians and a physician to beneficiary ratio of 0.36 to 1000. This ratio is still well below the staffing ratio of staff model HMOs.

As noted, the plan underestimated the number of physicians required to care for 25,000 beneficiaries. Given that the FAMC catchment area population is older than the population served by HMOs and that the utilization of health care resources increases with age (Kravitz, et al. 1992; Pawlson 1990), the plan should have allowed for more physicians than used in the average staff model HMO.

Administrative Staff

The Implementation/Business Plan called for a total of seventeen administrative support staff: four receptionists, four appointment clerks, four records clerks, one health benefits advisor, one secretary, two couriers, and one administrator. The administrative staff to beneficiary ratio for this plan is 0.68 per 1000. Staff model HMOs average 3.134 administrative employees per 1000 beneficiaries (Group Health Association of America 1993). Although the HMO ratio includes all administrative functions, the Team I number does not include all functions.

At FAMC, many administrative functions that are part of the HMO number are performed by personnel outside of the Adult Primary Care Clinic. Therefore, direct comparisons of these numbers is not possible.

Clinical Pharmacists

The Implementation/Business Plan called for two clinical pharmacists. Actually, three were planned (Pope 1994) and are used in the ratio calculation. The ratio for Team I is 0.12 pharmacists per 1000 beneficiaries. Staff model HMOs average 0.21 pharmacists per 1000 beneficiaries (Group Health Association of America 1993). Again, direct comparisons are difficult because additional pharmacists within FAMC are utilized to care for the enrolled beneficiaries. Clinical pharmacists in Adult Primary Care counsel patients and physicians on medications, renew prescriptions, and enter prescription data into FITZ-HIS. Additional pharmacists dispense medications and provide inpatient services for the enrolled beneficiaries.

Nursing Staff

Other than Nurse Practitioners, the data from the survey conducted by the Group Health Association of America does not include nursing staffing information. The Implementation/Business Plan for Team I includes one head nurse, one nurse case manager, and one advice nurse. In addition, one psychiatric clinical nurse specialist was

planned, resulting in a total of four Registered Nurses (RNs). Other planned nursing staff totaled nine, including two Licensed Practical Nurses (LPNs), one NCOIC, and six nursing assistants.

Enrollment of Patients to Primary Care

The Managed Care Division planned to enroll all beneficiaries in the FAMC catchment area. To obtain the names and addresses of the beneficiaries, a computer tape was ordered from the Defense Enrollment Eligibility Reporting System (DEERS). Programmers in the Directorate of Information Management wrote a program to enable the information to be printed as mailing labels (Gibbons 1994). Beginning in March 1994, enrollment packets were mailed to all eligible beneficiaries listed on the DEERS tape. The packet included a letter from Brigadier General J. Sutherland Parker, the Commander of FAMC (Appendix C). The letter promised easier access to care, extended clinic hours, telephone consultation, wellness programs, and individual case management.

Army Regulation 40-3 sets priority for care based on beneficiary category. Active duty are to be given first priority, followed by dependents of active duty, then retirees and their dependents (U.S. Department of the Army 1985). This priority system was not followed during the enrollment process.

An enrollment program was also written for FITZ-HIS. The program utilizes a template which includes space for the name, military status, address, telephone number, insurance information, team assignment, and physician assignment for each family member. Plans were made to include a list of medical problems in the template, but the program was not finished when enrollment began (Gibbons 1994).

The enrollment process had multiple problems. Several of these problems were related to the FITZ-HIS programs. The programming did not include a means of monitoring the number of patients enrolled to each physician. A program with these capabilities was not available until November 1994. The enrollment program had several errors and idiosyncrasies which resulted in enrollment of both deceased individuals and family members who were no longer eligible for care (McCoy 1994).

Due to the short time available prior to the scheduled opening of Team I, enrollment was done in a hurried fashion. Multiple individuals, often with little training or understanding of the overall plan, were enlisted to enter data into the computer. They received minimal direction from the Managed Care Division (McCoy 1994). The enrollment clerks picked the physician to whom each patient was enrolled. The enrollment form asked for the name of each patient's current physician. This information was not taken into account during the enrollment process (Gibbons 1994).

Although only one team was being implemented, patients were enrolled to all three teams. Because no provision was made to enroll patients incrementally, patients were enrolled before staff was hired.

Status of the Clinic on Opening Day

The clinic opened, as scheduled, on July 5, 1994. Although patients were in abundance, staffing was not complete. Missing assets included NPs and PAs, the advice nurse, the psychiatric clinical nurse specialist, the health promotion technician, and a radiology technician. It was immediately obvious the patient demand was exceeding physician availability. The wait for routine appointments immediately became four to six weeks (Pope 1994).

The clinic experienced many problems in trying to hire physicians, nurse practitioners, and physician assistants. The problems included: delays due to the Civilian Personnel Office (CPO), lack of appropriate advertising, and lack of availability of physicians, NPs, and PAs. The staff of the clinic urged the CPO to advertise the physician and NP/PA positions in professional journals (Pope 1994, Sirridge 1994, McNitt 1994). Despite these recommendations, no attempt was made to advertise in journals until February 1995. The Department of Nursing disapproved the hiring of a NP whom the clinic staff felt was qualified (Pope 1994). Hiring of nursing personnel was delayed pending a hospital wide nursing downsizing which was to take place in the fall

of 1994. This delay also affected administrative positions for clerks because many of the clerks in the hospital work for the Department of Nursing (Pope 1994). This downsizing finally occurred in May 1995. In addition, the position of psychiatric clinical nurse specialist was delayed by the Department of Psychiatry and the position of health promotion technician was delayed by the Department of Nursing. Both of these were delayed because the departments questioned the appropriateness of these positions in the Adult Primary Care Clinic (Etnyre 1994).

Clinic Status, October 1994

Enrollment

The age and sex distribution of the Primary Care enrollees is shown in Table 5. Compared to the FAMC catchment area population (Table 3), the Adult Primary Care Clinic has a lower proportion of patients age 18 to 44, and a higher proportion of patients aged 45 and above.

Table 5

Age and Sex Distribution of Primary Care Enrollees,
October 1994

Age	Male	Female	Total
18 - 44	10.0%	10.2%	20.2%
45 - 64	21.3	22.6	43.9
>64	17.5	18.2	35.7
Total	48.8	51.0	

The enrollment to staff physicians is shown in Table 6. Patients assigned to NP/PAs are included in the physician number. Patients assigned to interns and residents are not included in Table 6. The FTE determination for military physicians is explained in the next section of this paper. As shown in Table 6, the enrollment is not balanced by physician. The enrollment to military physicians varies from 828 to 2332. Note that one military physician has two NP/PAs assigned. Originally only one was assigned. The second PA was assigned due to a need for greater supervision (Sirridge 1994).

Table 6			
Enrollment to APCC Staff Physicians, October 1994			
Doctor	FTE	NP/PA Assigned	Number of Patients
Civilian 1	1.0	In Training	2,921
Civilian 2	1.0	0	3,178
Civilian 3	1.0	0	2,635
Military 1	0.25	2	1,345
Military 2	0.25	0	2,332
Military 3	0.25	0	1,592
Military 4	0.25	0	930
Military 5	0	0	1,255
Military 6	0	0	828

Table 7 shows the enrollment status of the adults residing in the FAMC catchment area by beneficiary category. Only those enrolled to Team I are counted as enrolled. Although patients were enrolled to Team II, the hiring of staff and implementation of Team II had not yet occurred. The failure of the enrollment process to prioritize the enrollment of active duty service members and their dependents resulted in the enrollment of 14,596 retirees and their dependents, while 6572 active duty and their dependents remained unenrolled.

Table 7		
Enrollment Status of FAMC Catchment Area Adult Population, October 1994		
Beneficiary Category	Enrolled to Team I	Not Enrolled
Active Duty	1,760	3,472
Dependents of Active Duty	1,280	3,100
Retirees and Dependents of Retirees	14,596	17,659
Total	17,536	21,591

Staffing

Physicians, Nurse Practitioners, Physician Assistants

In October 1994, the physician staff consisted of three civilian physicians and four military physicians. Although six military physicians were assigned, two were no longer available to see patients in the clinic due to other duties.

These two physicians had a total of 2083 patients enrolled to them. Analysis of the military physicians' clinic schedules for October and November 1994, showed that each physician averaged 0.25 FTE in the clinic, for a total of one FTE. The military physicians spend the rest of their time on teaching and administrative duties. One FTE military physician together with three civilian physicians gives a total of four FTEs. Enrollment totals approximately 17,500, resulting in a physician to beneficiary ratio of 0.23 per 1000. Because patients enrolled to NP/PAs, interns, and residents are also assigned a staff physician, these patients are included in the total enrollment of 17,500.

Due to the hiring difficulties already discussed, Team I was unable to reach the planned number of NPs/PAs. As of October 1994, two fully trained physician extenders were on staff of the Adult Primary Care Clinic. One of these physician extenders was not trained to see patients over the age of sixty. An additional PA was training in the clinic (Pope 1994). The PA in training is not counted as any portion of an FTE. The training actually takes up physician time rather than augmenting the physician's practice. As previously discussed, two NP/PA FTEs can be considered equivalent to 1.6 physician FTEs for staffing purposes. This increases total physician equivalent FTEs to 5.6, resulting in a physician to beneficiary ratio of 0.33 per

1000. This ratio is well below the staffing ratio of staff model HMOs. Thus it is not a surprise that the waiting time for a routine appointment increased to four to six weeks immediately after the clinic opened.

Administrative Staff

As of October 1994, the administrative staff consisted of five receptionists, one health benefits advisor, five appointment clerks, four records clerks, one secretary, and one administrator, for a total of nineteen. Two of these positions were temporarily filled by personnel detailed from the Department of Nursing. The positions were later filled, so they are included in the October totals. The resultant ratio of administrative staff to beneficiaries is 1.08 per 1000. The number of administrative staff was increased over the Implementation/Business Plan because the workload clearly justified the additional positions (Pope 1994).

Clinical Pharmacists

As planned, three clinical pharmacists were hired for the Adult Primary Care Clinic. Three pharmacists for 17,500 beneficiaries gives a ratio of 0.17 FTEs per 1000 beneficiaries. As previously discussed, pharmacists in other areas of the hospital are also involved in caring for the enrolled beneficiaries.

Nursing Staff

As of October 1994, the only RNs hired were the head nurse and the nurse case manager. The nursing positions

noted to be unfilled on opening of the clinic remained unfilled in October 1994. As a result, the head nurse, case manager, and NP or PA filled in as advice nurses at the walk-in appointment desk. Although they take phone calls at the desk, they have been unable to implement the planned telephone advice nurse program (Etnyre 1994).

Patient Characteristics

Study Sample

The enrollment to Team I of Adult Primary Care was 17,570 on October 24, 1994. The age and sex distribution of the enrolled population was shown in Table 5. As described in Chapter 2, a ten percent sample of the enrolled population was chosen for this study. The age and sex distribution of the sample of enrollees is shown in Table 8. Comparison of the two tables shows that the age and sex distribution of the sample is nearly identical to that of the enrolled population.

Table 8

Age and Sex Distribution of Sample of Primary Care Enrollees, October 1994

Age	Male		Female	
	Number	Percent	Number	Percent
18 - 44	175	10.1%	174	10.2%
45 - 64	369	21.3	393	22.7
>64	307	17.7	315	18.2
Total	851	49.1	882	50.9

Utilization

The average ambulatory utilization rate for the sample population was 9.19 visits per year. The rate for males was 9.4 visits per year and for females was 8.62 visits per year. Table 9 shows the total average ambulatory utilization rates for the sample population by age and sex. Comparison of the average utilization rates for the Team I population to those of HMO patients reveals that Team I patients of all ages have more visits per year than HMO patients. While adult males enrolled in HMOs consistently have less visits than females in the same age category, males and females enrolled to Team I have similar utilization rates through age 64. Team I males over the age of 64 have more visits per year than females in the same age group. It is interesting to note that Team I patients over the age of 65 have lower utilization rates than Medicare risk HMO enrollees who average 16.7 visits per year (Group Health Association of America 1993).

Table 9

Average Total Ambulatory Utilization Rates (Visits/Year)
of Sample Population by Age and Sex

Age	Male	Female
18 - 44	7.8	7.6
45 - 64	8.4	8.1
>64	11.6	9.8

Chronic Diagnoses

The outpatient record was reviewed for 1148 of 1733 individuals (66.2%). One or more chronic diagnoses were found in 72.6% of the records reviewed. The high percentage of patients with at least one chronic diagnosis is consistent with an older, sicker population. Table 10 shows the percentage of patients in the sample population who have selected chronic diagnoses. In the Von Korff and Marshall study, patients with one of twelve diagnoses represented 37% of one physicians panel, but accounted for two-thirds of costs. In this study, 52.5% of patients were found to have one or more of these twelve diagnoses. In Table 10, these diagnoses are marked with an asterisk (*). As shown in the Von Korff and Marshall study, these diagnoses result in high utilization of health care resources.

Table 10

Percentage of Sample Population Showing Selected Chronic Diagnoses	
Diagnosis	Percent of Patients
Hypertension*	31.0%
Lipid Abnormalities	18.9
Arthritis*	18.6
Stroke	16.6
Heart Disease*	12.9
Thyroid Disease	10.9
Cancer*	10.6

Table 10	
Percentage of Sample Population Showing Selected Chronic Diagnoses	
Diagnosis	Percent of Patients
Diabetes Mellitus*	10.4
Gastroesophageal Reflux	8.6
Asthma/COPD*	8.4
Other Neurologic Disease	5.5
Prostate Abnormality	5.2
Back Pain*	5.0
Colon Polyps	5.0
Skin Cancer	4.3
Peptic Ulcer Disease	4.1
Headache*	3.6
Depression*	2.9
Rheumatologic Disease	2.9
Anxiety*	1.5
Other Psychiatric Disease	1.0
Fatigue*	0.4
Abdominal Pain*	0.4
Dementia	0.4

Chronic Medications

Table 11 shows the average number of chronic medications by age and sex. The average for the entire sample is 2.16 medications. As expected from other studies (Kravitz, et al. 1992), the number of chronic medications is

higher in the older age groups. It is noted that females in all age groups use more chronic medications than males.

Table 11

Average Number of Chronic Medications for Sample Population by Age and Sex

Age	Male	Female
18 - 44	0.56	1.41
45 - 64	1.66	2.54
>64	2.82	2.93
All Ages	1.85	2.46

CHAPTER 4

SUMMARY AND CONCLUSIONS

Civilian HMOs provide care to a young, healthy population. The FAMC catchment area population is much older than the population served by HMOs. Although the plan for primary care at FAMC was said to be based on civilian HMO models, the planned physician and NP/PA to beneficiary staffing ratios are clearly below those used by HMOs. Keeping in mind the older population eligible for care at FAMC, planned staffing ratios should be higher, not lower, than civilian HMOs. Administrative, clinical pharmacy, and nursing staffing are more difficult to compare directly to HMOs.

In the military system, regulations guide the priority for care (U.S. Department of the Army 1985). This priority for care was not followed during the enrollment process. Inadequate supervision of enrollment clerks and inadequate information systems compounded the problems with the enrollment process.

The actual physician and NP/PA staffing of the clinic was even less than the proposed staffing. This was due to military physicians being required for other duties and to difficulties hiring civilian staff. For multiple reasons,

the necessary physicians, NP/PAs, and nursing staff were not hired. The abundance of patients, combined with the inadequate staffing, resulted in appointments not being available for the patients who had been promised easier access to care (Appendix C). It also resulted in significant stress for the clinic staff, who were doing their best to care for the enrolled patients (Etnyre 1994; Pope 1994; Sirridge 1994).

The patient population of the APCC is significantly older than the population served by civilian HMOs. At all ages, the APCC patients have higher utilization rates than patients enrolled in staff model HMOs. However, when compared to the utilization of patients enrolled to Medicare risk HMOs, the APCC patients over the age of 65 have less visits per year. The outpatient record review revealed that 72.6% of the sample APCC patients have at least one chronic diagnosis. Fifty-two percent of these patients have one or more of twelve chronic conditions shown, in a previous study (Von Korff and Marshall 1992), to be associated with high utilization of resources. As shown in other studies, older APCC patients use more chronic medications than younger patients.

The concept for the primary care system at FAMC clearly embraced all aspects of the Institute of Medicine's definition of primary care (Donaldson, Yordy, and Vanselow 1994). However, it did not even approach the physician and

NP/PA staffing levels of civilian HMOs, falling markedly below those levels. This study shows that the APCC patient population is older and has higher utilization than HMO patients. The clinic also has a higher percentage of patients with chronic conditions that are known to be associated with high utilization of resources. All of these factors reinforce the fact that the APCC should have a higher physician to beneficiary ratio than that of staff model HMOs.

This study has several limitations. Documentation of the planning for the clinic is very limited, forcing the author to rely on information obtained through interviews of individuals involved in the planning and implementation of the clinic. Three factors may have led to finding utilization rates that are lower than actual utilization. First, due to the great demand, appointment availability was limited. As a result, patients were not always able to obtain appointments. This may have resulted in lower utilization than would be seen if appointments were available. Second, patients are not limited to receiving their care at FAMC. They are free to see other physicians under CHAMPUS, Medicare, or other insurance plans. In fact, 236 of the 1733 sample patients had never been seen at FAMC and did not have outpatient records at FAMC. Thus, the utilization rate of these patients was zero. If their actual utilization of health care services could be

included, it would further increase the utilization rates for the patient population. Third, psychiatry and infectious disease appointment information is not in FITZHIS. If these appointments could be included, utilization rates would again be higher.

Additional studies are possible utilizing the data collected for this study. Data includes: clinic specific utilization, exact chronic diagnoses, and number of chronic medications. Analysis of the relationship between these variables could be used to determine which patients, currently followed by specialists, could be managed in a primary care setting. The relationships between the variables could also be compared to those relationships found in other studies.

CHAPTER 5

RECOMMENDATIONS

Starting a Primary Care Clinic Using a Managed Care Model

Beginning a primary care clinic in a military facility, especially a tertiary care center with no previous emphasis on primary care, requires a large commitment of resources. If the facility is not willing to commit the necessary money and personnel, the primary care clinic will not be successful.

To plan for a primary care clinic, knowledge of the age distribution of the beneficiary population is very important. Additional useful information includes utilization and illness rates. Using the staff model HMO as a guideline, adjustments to the staffing ratios must be made based on these characteristics of the beneficiary population. The HMO average of one (0.983) physicians per 1000 patients should be increased for a beneficiary population such as that served by FAMC. In the military system, the enrollment process should begin with patients who have the highest priority for care.

With this population, a reasonable approach would be to begin enrollment with active duty and dependents of active duty, enrolling approximately 800 patients per physician

FTE. At this point, enrollment should stop and appointment schedules observed for a few months. If appointments are consistently filled, enrollment should not be resumed. If appointments are not filled, additional patients can be enrolled based on appointment availability. This approach will ensure that the physicians will not be overwhelmed with excessive numbers of patients and that enrollment will be based on capacity. Patients may also be enrolled to NP/PAs. Since each NP/PA can be treated as 0.8 of a physician FTE, beginning with approximately 600 patients per NP/PA would be reasonable.

Because patients are going to be enrolled incrementally, some provision must be made to take care of patients who are awaiting enrollment or who will not be enrolled. If this cannot be done in another clinic within the facility, the formation of a Participating Provider Network (PPN) for primary care is important to assist these patients in obtaining care. Adequate numbers of health benefits advisors and health care finders will be needed to help patients access care outside of the military facility.

Support staff, including nurses, administrative staff, and clinical pharmacists, must be also be in place before patients are enrolled. Additional staff must be added as physicians and patients are added.

Information systems are very important to the enrollment process. Mechanisms to monitor enrollment must

be in place prior to starting the enrollment. A new system should be tested with a small group of patients before it is used for a massive enrollment.

Adult Primary Care at Fitzsimons Army Medical Center

The original intent of this study was to make recommendations on how to adjust enrollment and staffing to enable the APCC to meet its goals of providing accessible comprehensive care to FAMC beneficiaries. Several factors have caused the APCC to change its plans and eliminated the need for such recommendations. First, primary care physicians and NP/PAs cannot be hired because they are simply not available. Second, the downsizing of the Army and Graduate Medical Education programs has resulted in a decrease in the number of military physicians assigned to FAMC and the APCC. Third, the placement of FAMC on the Base Realignment and Closure Commission's closure list has already resulted in the loss of one civilian primary care physician. More civilian physicians are expected to leave as they find other jobs. If the closure list is approved by the President and Congress, FAMC will rapidly downsize from a tertiary care facility to a troop medical clinic beginning June 30, 1996. The combination of these three factors have led to the realization that the original goal of providing comprehensive care to all eligible beneficiaries is not feasible. Thus, a decision was made to decrease the number

of patients enrolled to the APCC and to give priority to the care of active duty and their dependents.

Since this study began, several changes have occurred in the APCC. One additional physician and one NP/PA were hired. The APCC and the Outpatient Clinic combined in March 1995. This merger brought an addition 4.5 physician FTEs, but also brought 3900 patients who had enrolled to what was to have been Team II and non-enrolled patients who had been followed in the Outpatient Clinic.

As shown in Table 7, significant numbers of active duty and dependents of active duty are not enrolled in Adult Primary Care. In order to care for the active duty and their dependents, retirees and their dependents are being referred to civilian physicians. Retirees who were never enrolled were the first to be referred to civilian physicians. Retired beneficiaries who are enrolled are being referred out as their physician leaves or is required to care for active duty and dependents of active duty.

To assist patients in this transition, several programs have been initiated. Additional personnel have been trained and assigned as health benefits advisors. They are located in the Beneficiary Services Center. This Center began conducting educational classes for CHAMPUS and Medicare beneficiaries. Civilian health care organizations are setting up information booths at these classes. To further

assist patients in finding a civilian physician, a primary care PPN has been established. Network physicians give a discount on CHAMPUS.

The goals of this process include: opening up appointments and enrollment to provide care for active duty and dependents of active duty, decreasing enrollment to approximately 800 patients per physician FTE, maintaining the enrollment of older patients to support current Graduate Medical Education programs through June 30, 1996, and assisting the retired beneficiaries in obtaining continuing quality health care. By beginning the process of referring the retired beneficiaries to civilian physicians now, FAMC is attempting to decrease the likelihood of these patients being left without care during the rapid downsizing and closure.

APPENDIX A
CHART REVIEW WORKSHEET

CHART REVIEW WORKSHEET

Name _____ FMP/SSN _____ AGE _____ SEX _____

Visits in past year _____ Chronic Meds (#) _____
 Specialty clinics and visits _____

CHRONIC DIAGNOSES

Cardiac

____ Angina/ASCVD
 ____ Valvular Disease
 ____ CHF
 ____ Arrhythmia

Dermatologic

____ Neoplasm
 ____ Other _____

Endocrine

____ Diabetes (I or II)
 ____ Thyroid disease
 ____ Hypo/Hyper
 ____ Cholesterol
 ____ Other _____

Hypertension

____ Controlled
 ____ Uncontrolled

Heme/Onc

____ Malignancy
 ____ Breast _____
 ____ Colon _____
 ____ Lung _____
 ____ Prostate _____
 ____ Hematologic _____
 ____ Other _____
 ____ Anemia _____
 ____ Type _____

Neurologic

____ Alzheimers
 ____ Headache
 ____ Type _____
 ____ Seizure disorder
 ____ Parkinson's

Gastrointestinal

____ Abdominal Pain
 ____ Abnormal LFTs
 ____ Esophageal problem _____
 ____ PUD/gastritis/duodenitis _____
 ____ Irritable bowel syndrome _____
 ____ Cirrhosis _____
 ____ Gall stones _____
 ____ Heme + stools _____
 ____ Ulcerative Colitis _____
 ____ Hepatitis (Chronic) _____
 ____ Other _____

Infectious Disease

____ Osteomyelitis _____
 ____ HIV _____

Pulmonary

____ Asthma _____
 ____ COPD _____
 ____ Other _____

Renal/GU

____ Prostate--BPH/itis _____
 ____ Renal Failure _____
 ____ Other _____

Rheumatology

____ Arthritis _____
 ____ Osteo _____
 ____ Rheum _____
 ____ Gout _____
 ____ Collagen Vasc

Other

____ Back pain _____
 ____ Depression _____
 ____ Fatigue _____
 ____ Anxiety _____
 ____ Allergy _____

APPENDIX B
IMPLEMENTATION/BUSINESS PLAN

IMPLEMENTATION/BUSINESS PLAN INITIATIVE

FACILITY NAME: FITZSIMONS ARMY MEDICAL CENTER

LOCATION: AURORA, COLORADO 80045-5001

TITLE OF INITIATIVE: PRIMARY CARE

PROJECT OFFICER: ROSEMARIE Y. GIBBONS

POSITION: PROJECT OFFICER

PHONE: COMM (303) 361-4350; DSN 943-4350

FAX: COMM (303) 361-4642; DSN 943-4642

CLINICAL POINT OF CONTACT: CHRISTOPHER SIRRIDGE, LTC, MC

PHONE: COMM (303) 361-4863; DSN 943-4863

1. NARRATIVE.

a. DOD Managed Care Program requires provision of primary care managers.

b. Commander's objective is to offer registration and empanelment to all catchment area beneficiaries. It is anticipated that a majority of the beneficiaries will participate in the program and we are planning to provide all primary care services within the MTF with appropriate ancillary staffing.

c. MTF costs are projected to be less than PPO/PPN costs for providing comprehensive primary care services.

d. UM, case management and gate keeper monitoring activities will be facilitated when managed care is provided by this MTF.

e. A significant percentage of patients managed by specialists could be managed by a Primary Care Manager if one could be designated. Primary Care Management and patient empanelment should allow appropriate disengagement from the specialist and more appropriate utilization of specialty services; such utilization should contribute to the recapture of CHAMPUS workload.

f. Specialty service referrals will be better managed by accountable Primary Care Managers and specialists. CHAMPUS specialty care expenditures should decrease.

f. The Primary Care Management initiative is in its early implementation phase and will be concluded within 12 months. The initial iteration of Adult Medicine empanelment (Team I) begins 5 July 1994; both the second iteration of Adult Medicine empanelment and the Pediatric empanelment will commence during the first quarter of FY95.

g. It is anticipated CHAMPUS and OMA costs will plateau and decline upon maturity of the project.

Encl

1. Proposal Costs

**FITZSIMONS ARMY MEDICAL CENTER
PRIMARY CARE (ADULT TEAM 1)
PROPOSAL COSTS**

2. EXISTING COSTS:

A. CHAMPUS Inpatient	Not applicable		OUTPATIENT COST	VISIT
	COST	ADMIT		
FY93 Claims			3,654,932	70,977
Average Cost			51.43	
B. INHOUSE Inpatient	Not applicable		COST	VISIT
	COST	ADMIT		
FY93 Cost			5,865,676	39,803
Average Cost			147.37	

3. PROPOSAL COSTS:

	FY 93	CHANGE	FY 94	CHANGE	FY 95
Direct Hires (Pay)			172,267	516,800	669,067
Contracts			32,671	98,011	130,682
Supplies			3,043	13,957	14,426
Equipment			137,044	(132,044)	5,000
Facility Modification			55,000	(55,000)	0
Other			171,649	(154,983)	16,666
Total	0	0	871,674	236,741	855,241
CEL				5.5	22.0
Workload					
Inpatient Admits					
Outpatient Visits	39,803	6,210	46,013	29,279	75,292

4. ADJUSTED COSTS:

	FY 94		FY 95	
	CHAMPUS	INHOUSE	CHAMPUS	INHOUSE
Inpatient FY93 Avg Cost				
Admits (FY93-WKLD) NOT APPLICABLE				
Adjusted Sub Tot				
Outpatient FY93 Avg Cost	51.49		51.49	
Visits (FY93-WKLD)	64,702		35,189	
Adjusted Sub Tot	3,335,151		1,627,466	
Adjusted Cost (Inpat+Output)	3,335,151	6,437,450	1,827,466	1,724,091

5. RECOVERY COSTS:

	FY 93	FY 94	FY 95
CHAMPUS Cost	3,654,932	3,335,151	1,827,466
Inhouse Cost	5,865,676	6,437,450	6,724,091
Total	9,520,608	9,772,600	8,551,557
Proposal Cost		51.474	655,841
Savings		(25,892)	1,220,943

Source: 1. CHAMPUS Workload & Costs from MASS FY93 Database (9403)
 2. FAMC Workload & Costs projected from MEPRS I Rpt, Oct 93–Feb 94.
 3. All personnel and other requirements were designated by Dir of Managed Care FAMC (Cost detail attached).
 4. Workload recapture estimated as follows: FY94: 50% of 1 Qtr CV times 70%; FY95 50% of total CV.

PROPOSAL COST DETAIL SHEET

**FITZSIMONS ARMY MEDICAL CENTER
ADULT PRIMARY CARE PLAN (TEAM 1)**

[51]

TOTAL PERSONNEL REQMTS		EXISTS	NEED	CEL FY94		CEL FY95		FY94 TOT PAY	FY95 TOT PAY
				5.5	22	4 QTR 94	FY95		
				BUY	BUY	ANN PAY			
3 Physicians	GS14	3	0		0	\$77,395 *		\$58,046	\$232,185
4 Nur Pract/Phys Asst	GS12	1	3	\$35,807	\$143,229	\$47,743		\$47,743	\$190,972
4 Recept	GS4	2	2	\$9,710	\$38,840	\$19,420		\$19,420	\$77,680
4 Appt Clk	GS4	1	3	\$14,565	\$58,260	\$19,420		\$19,420	\$77,680
1 Hlth Ben Advisor	GS7	1	0	\$0		\$26,914		\$6,729	\$26,914
5 Med Rcds Clk	GS4	0	5	\$24,275	\$97,100	\$19,420		\$24,275	\$97,100
2 LPN	GS5	0	2	\$11,920	\$47,678	\$23,839 *		\$11,920	\$47,678
1 Case Manager	GS11	0	1	\$9,959	\$39,837	\$39,837		\$9,959	\$39,837
1 Clin Secretary	GS5	1	0	\$0		\$21,728		\$5,432	\$21,728
1 Clin Admin	GS9	1	0	\$0		\$32,923		\$8,231	\$32,923
1 Advice Nurse	GS9	1	0	\$0		\$34,271 *		\$8,568	\$34,271
2 Clin Pharm	GS11	2	0	\$0		\$43,712 *		\$21,856	\$87,424
2 Lab Tech	GS5	1	1	\$5,432	\$21,728	\$21,728		\$10,864	\$43,456
2 Rad Tech	GS6	0	2	\$13,286	\$53,144	\$26,572 *		\$13,286	\$53,144
0.2 Clin Dietitian	GS11	0.2	0	\$0		\$39,837		\$1,992	\$7,967
1 Hlth Promotion Tech	GS5	0	1	\$5,432	\$21,728	\$21,728		\$5,432	\$21,728
2 Courier	GS3	0	2	\$8,651	\$34,604	\$17,302		\$8,651	\$34,604
	TOTAL CIV WITH FRINGE	14.2	22.0	\$139,037	\$556,148			\$281,823	\$1,127,291
				\$172,267	\$689,067			\$349,179	\$1,396,714
MILITARY PERSONNEL									
1 Physician Chief	05		1	0					
1 Head Nurse	04		1	0					
1 Nurse Pract	03		1	0					
2 Internist	03		2	0					
1 NCOIC	E6		1	0					

GS Pay Table Eff 9 Jan 94

*Special Pay Rate

Local Fringe Factor (23.9%)

	FY94 BUY	FY95 BUY
DIRECT HIRES	\$172,267	\$689,067
CONTRACTS (NUR PRACT - CHAMPUS PARTNERS)	\$32,671	\$130,682
OPERATING SUPPLIES (.4927 PER CL VIS)	\$3,060	\$14,426
EQUIPMENT	\$137,044	\$5,000
Supply Items \$28,572		
CEEP Items \$108,472		
FACILITY MODIFICATION	\$55,000	
Carpeting (Team 1) \$35,000		
Upgrade wiring \$20,000		
OTHER (MISC COSTS) CME Training	\$171,649	\$16,666
CME Training (\$4,166)		
Furniture (\$167,483)		
PROPOSAL COSTS	\$571,691	\$855,841

PROPOSAL COST BREAKDOWN

TEAM I: EQUIPMENT

	less than \$1000	CEEP
22 PC's and 20 Printers	\$54,298	
2 Laser Printers	\$3,394	
1 HP Deskjet (color)	\$650	
1 Deskjet 500 Printer	\$400	
 16 Fitz His Terminals		
2 Line Printers		
1 Label Printers		
 1 Adjustable Mixing Tray	\$381	
1 Phlebotomy Chair (dbl)	\$2,280	
1 Centrifuge (Peds)	\$1,600	
 6 Elec Exam Tables (GYN)		\$36,000
 3 Addressographs	\$750	
1 Storage Cabinet (Lab) 3'x1'	\$300	
1 Container to Transport lab	\$150	
7 Otoophth wall unit	\$5,600	
8 Ear Thermometers	\$600	
1 Pulse Ox	\$500	
8 Wall Mount BP Cuffs	\$400	
20 Med Size Procedure Cabinets	\$14,000	
2 Scales	\$200	
2 Portable Records Cart	\$1,000	
6 Telephone Headsets	\$550	
2 Ames Meters		\$2,000
7 Radiographic View Boxes		\$2,450
33 Lab Coats	\$660	
4 IVAC Auto Vital Signs		\$6,450
1 VCR	\$300	
1 VCR Cart with locks	\$550	
1 Overhead Projector and screen	\$500	
1 Overhead Proj Cart	\$150	
5 Portable Space Heaters	\$250	
24 Rolodex	\$541	
6 Electric Pencil Sharpeners	\$89	
12 Wastebaskets	\$51	
 <hr/>	<hr/>	<hr/>
	\$28,572	\$108,472
 Total Equipment Cost for Team I:	<hr/>	<hr/>
	\$137,044	

APPENDIX C
INVITATION TO ENROLL



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
FITZSIMONS ARMY MEDICAL CENTER
AURORA, COLORADO 80045-5001

March 28, 1994



**Directorate of Managed Care
Coordinated Care Division**

Dear Beneficiary:

This is an invitation to you and your family to become members of the Fitzsimons Army Medical Center Gateway to Care/TRICARE Program.

Membership allows easier access to quality medical care by offering a single point of entry for all medical services and a medical team dedicated to providing management of all of your health care needs. Scheduling of appointments, patient education, wellness programs, telephone consultation and individual case management are integral components of Gateway To Care/TRICARE.

The team will include physicians, physician assistants or nurse practitioners, nursing staff, ancillary medical staff, health promotion technicians, medical service coordinators and dedicated appointment clerks. Extended hours of service will be offered which will eliminate unnecessary visits to the emergency room and long waits for medical care.

Agreements offering discounts with community medical networks of CHAMPUS providers have been negotiated. Co-payments will apply for services rendered by CHAMPUS and MEDICARE providers.

There are no fees or premiums associated with registration.

In order to register for Gateway to Care/TRICARE, please complete the attached registration form and health questionnaire by April 30, 1994. Please place the completed questionnaire inside the enclosed privacy act form, ensuring that the FAMC address is on the front, fold into thirds, then tape or staple shut. No return postage is required.

For information on program specifics, or questions regarding the survey, please contact (303) 361-8299 (DSN 943-8299).

Sincerely,

J. Sutherland Parker
Brigadier General, Medical Corps
Commanding



REFERENCE LIST

Borgsdorf, Lawrence R., John S. Miano, and Katherine K. Knapp. 1994. Pharmacist-managed medication review in a managed care system. American Journal of Hospital Pharmacy 51: 772-7.

Burger, Leslie. 1994. Managed care in the AMEDD. Presentation at the 11th Annual U. S. Army Meeting of the American College of Physicians. Reston, Virginia, 29 October.

Conn, Rex B. 1993. Pitfalls of using HMO model for physician staffing. Health Affairs 12 (4): 258-9.

Coslow, Florence. 1992. The nurse practitioner in the HMO. HMO Practice 6 (3): 25-8.

Department of Defense (Health Affairs). 1994. Policy guidelines for implementing managed care reforms in the military health services system. 10 January.

DMIS Information Center. 1994. FY94 third quarter MHSS total population by beneficiary category, sex, and age for the Fitzsimons AMC-Denver. 3 November.

Donaldson, Molla, Karl Yordy, and Neal Vanselow, eds. 1994. Defining primary care: An interim report. Committee on the Future of Primary Care, Division of Health Care Services, Institute of Medicine. Washington: National Academy Press.

Etnyre, Annette, Head Nurse, Adult Primary Care Clinic, Fitzsimons Army Medical Center. 1994. Interviews by author, October, November.

Fitzsimons Army Medical Center. 1994a. Fact sheet. 5 August.

Fitzsimons Army Medical Center. 1994b. Information paper: Fitzsimons Army Medical Center's primary care plan, 7 February.

Fitzsimons Army Medical Center. Directorate of Information Management. 1994. FITZ-HIS Basic and Physician Manuals. Version 1.1. Denver: Fitzsimons Army Medical Center.

[Fitzsimons Army Medical Center. Managed Care Division.
1994.] Gateway to Care. Photocopy.

Gibbons, R., Regional Health Services Operations, Fitzsimons
Army Medical Center. 1994. Interview by author, 29
September.

Group Health Association of America, Inc. 1993. HMO industry profile. Washington: Group Health Association of America, Inc.

Hepler, Charles D., and Linda M. Strand. 1990. Opportunities and responsibilities in pharmaceutical care. American Journal of Hospital Pharmacy 47: 533-43.

Hooker, Roderick S., and Donald K. Freeborn. 1991. Use of physician assistants in a managed health care system. Public Health Reports 106: 90-4.

Katz, Leonard A., Gordon Moore, and John J. Wisniewski. 1994. Training (or retraining) primary care physicians to practice in managed-care settings: Harvard community Health Plan and Metro Medical Group. Presentation at the Second National Primary Care Conference. Dallas, 12 September.

Kongstvedt, Peter R. 1993. The managed health care handbook. Gaithersburg, Maryland: Aspen Publishers.

Kravitz, Richard L., Sheldon Greenfield, William Rogers, Willard G. Manning, Jr., Michael Zubkoff, Eugene C. Nelson, Alvin R. Tarlov, and John E. Ware, Jr. 1992. Differences in the mix of patients among medical specialties and systems of care: Results from the Medical Outcomes Study. Journal of the American Medical Association 267: 1617-23.

Lee, M. Patricia, and Max D. Ray. 1993. Planning for pharmaceutical care. American Journal of Hospital Pharmacy 50: 1153-8.

Levkoff, Sue, Terrie Wetle, Eugenie Coakley, Harmon Jordan, Dwaine Hartline, and Debbie Szmuszkovicz. 1988. Predictors of service utilization by Medicare HMO enrollees. HMO Practice 2 (2): 58-65.

Levkoff, Sue E., Terrie Wetle, Eugenie Coakley, and Judith Kasper. 1992. Determinants of expenditures and use of services among elderly HMO enrollees. HMO Practice 6 (3): 6-12.

Mantia, William M. 1994. Letter to Chief, Managed Care Division, USA MEDCOM (PROV), 15 July. Photocopy.

McCoy, Thomas, Quality Improvement Office, Fitzsimons Army Medical Center. 1994. Interviews by author, October, November.

McNitt, Theodore, Physician, Adult Primary Care Clinic, Fitzsimons Army Medical Center. 1994. Interview by author, November.

Pawlson, L. Gregory. 1990. Health care implications of an aging population. Chapter 16 of Principles of geriatric medicine and gerontology. 2nd ed. New York: McGraw-Hill.

Penna, Richard P. 1990. Pharmaceutical care: Pharmacy's mission for the 1990s. American Journal of Hospital Pharmacy 47: 543-9.

Pope, Barbara, Administrator, Adult Primary Care Clinic, Fitzsimons Army Medical Center. 1994. Interview by author, 5 October.

Schoomaker, Eric. 1994. Managed care model for Madigan Army Medical Center. Presentation at the 11th Annual U. S. Army Meeting of the American college of Physicians. Reston, Virginia, 29 October.

Seipp, Karen. 1994. Notes from primary care process action team meeting, 24 March.

Sirridge, Christopher, Chief, Adult Primary Care Clinic, Fitzsimons Army Medical Center. 1994. Interview by author, 3 October.

Steinwachs, Donald M., Jonathan P. Weiner, Sam Shapiro, Paul Batalden, Kathy Coltin, and Fred Wasserman. 1986. A comparison of the requirements for primary care physicians in HMOs with projections made by the GMENAC. The New England Journal of Medicine 314: 217-22.

Thorner, Robert M. 1978. The use of health services by civilian beneficiaries of the military health care system: A comparative study. Medical Care 16: 267-88.

U.S. Department of the Army. 1985. Army Regulation 40-3: Medical, Dental, and Veterinary Care, Washington, D.C.: U.S. Department of the Army.

Von Korff, Michael, and Jean Marshall. 1992. High cost HMO enrollees: Analysis of one physician's panel. HMO Practice 6 (1): 20-5.

Weiner, Jonathon P. 1991. HMOs and managed care: Implications for rural physician manpower planning. The Journal of Rural Health 7: 373-87.

Wimett, William J. 1994. Letter to Department of Nursing staff, 26 April.

Yin, Robert K. 1984. Case study research: Design and methods. Beverly Hills: Sage Publications.